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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/624,660	07/25/2000	Moshe Rock	10638-037001/952/33	6658
26161	7590	01/28/2004	EXAMINER	
FISH & RICHARDSON PC 225 FRANKLIN ST BOSTON, MA 02110			TORRES VELAZQUEZ, NORCA LIZ	
			ART UNIT	PAPER NUMBER
			1771	

DATE MAILED: 01/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/624,660

Applicant(s)

ROCK ET AL.

Examiner

Norca L. Torres-Velazquez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-32 is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed October 31, 2003 have been fully considered but they are not persuasive.

a. With regards to the rejection of claims 1-8 and 10-18 under 35 U.S.C. 103(a) over LUMB et al. (US 5,312,667) in view of FUJIWARA JP 09-087901A and the rejection of these claims under 35 U.S.C. 103(a) over LUMB et al. '667 in view of TOSHIO; Applicants argue that neither FUJIWARA nor TOSHIO provide any teaching, or suggestion to include refractory particles in an inner fabric layer having a surface area enlarged by a raising process for creating air spaces to enhance insulation performance and for reducing contact of the inner fabric layer upon a wearer's skin. Applicant's further argue that both the prior art JP references (FUJIWARA and TOSHIO) teach fabrics in which the refractory particles are held in close proximity to the wearer's skin.

Applicant's arguments are noted and have been considered, however, it is the Examiner's position that the LUMB et al. reference provides the structure of the composite textile fabric of the present invention that includes a first fabric layer raised by napping that would produce the claimed air spaces in the surface. The Examiner is relying on the FUJIWARA and TOSHIO references to provide the LUMB et al. fabric with yarn fibers embedded with a refractory compound to further improve the heat insulation effect of the fabric. It is the Examiner's interpretation that the fibers with refractory compounds could be used to make the fabric structure of LUMB et al. to enhance the heat insulation effect of the fabric.

Therefore, the claims remain rejected as stated in previous office action.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-8 and 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over LUMB et al. (US 5312667) in view of FUJIWARA (Abstract Japanese Patent 09-087901A) as stated in previous action.

LUMB et al. discloses a composite textile fabric for moving moisture away from the skin. It includes a first fabric layer (inner layer) comprising either a polyester or nylon material which has been rendered hydrophilic and a second fabric layer comprising at least 25% by weight of a moisture absorbent material such as cotton. The first fabric layer and the second fabric layer (outer layer) are formed concurrently by knitting a plaited construction. (Abstract) The reference further teaches that the surface of the material in the first fabric layer is raised. (Column 1, line 40). LUMB et al. also teaches that the composite textile fabric is used in garments, including sweatshirts, sweat pants, underwear, bathrobes, and various types of exercise clothing. (Column 1, lines 50-53)

The composite fabric may be constructed as a warp or weft knit, such as a two-end fleece, three-end fleece, terry with regular plaiting, double terry, double needle raschel and tricot. (Column 2, lines 67-68 through Column 3, lines 1-2)

LUMB et al. further teach that the surface of the first fabric layer is raised by napping. The polyester or nylon layer is either round or modified cross-section, 0.3 to 6.0 denier. (Column 3,

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lines 30-35). The reference discloses that the significance of the plaited fabric construction is that this feature helps to create a substantial moisture concentration gradient between the surface of the raised polyester or nylon layer (which quickly transports water from the skin) and the cotton layer (which absorbs the water from the first layer and from which the water is evaporated. (Column 1, lines 62-68)

However, the reference does not disclose the use of particles of a refractory compound embedded within the yarn fibers of the inner fabric layer.

FUJIWARA et al. discloses a stocking constituted by a synthetic fiber containing a substance having a heat storing and heat insulating effects by absorbing the visible ray of the sunlight and generating heat through an energy conversion, having the improved heat insulating effect, and excellent in fashionable property. The reference further teaches that the stockings are constituted by a synthetic fiber such as nylon, polyester and an acrylic fiber containing a substance such as zirconium carbide. The reference also teaches that the fiber of their invention also has the effect of reflecting the far infrared rays generated from a human body, and it carries out thermal conversion and not only keeps it warm, but it can acquire a double heat insulation effect. (Refer to [0008]).

Since both LUMB et al. and FUJIWARA et al. are from the same field of endeavor, knitted fabrics with insulating properties, the purpose disclosed by FUJIWARA et al. would have been recognized in the pertinent art of LUMB et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the composite textile fabric and provide it with fibers with particles of zirconium carbide with the motivation of providing the fabric with improved heat insulation effect as disclosed by FUJIWARA et al. (Abstract)

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4. Claims 1-8 and 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over LUMB et al. (US 5312667) in view of TOSHIO et al. (JP 02-182968 Abstract) as stated in previous action.

LUMB et al. discloses a composite textile fabric for moving moisture away from the skin. It includes a first fabric layer (inner layer) comprising either a polyester or nylon material which has been rendered hydrophilic and a second fabric layer comprising at least 25% by weight of a moisture absorbent material such as cotton. The first fabric layer and the second fabric layer (outer layer) are formed concurrently by knitting a plaited construction. (Abstract) The reference further teaches that the surface of the material in the first fabric layer is raised. (Column 1, line 40). LUMB et al. also teaches that the composite textile fabric is used in garments, including sweatshirts, sweat pants, underwear, bathrobes, and various types of exercise clothing. (Column 1, lines 50-53)

The composite fabric may be constructed as a warp or weft knit, such as a two-end fleece, three-end fleece, terry with regular plaiting, double terry, double needle raschel and tricot. (Column 2, lines 67-68 through Column 3, lines 1-2)

LUMB et al. further teach that the surface of the first fabric layer is raised by napping. The polyester or nylon layer is either round or modified cross-section, 0.3 to 6.0 denier. (Column 3, lines 30-35). The reference discloses that the significance of the plaited fabric construction is that this feature helps to create a substantial moisture concentration gradient between the surface of the raised polyester or nylon layer (which quickly transports water from the skin) and the cotton layer (which absorbs the water from the first layer and from which the water is evaporated. (Column 1, lines 62-68)

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However, the reference does not disclose the use of particles of a refractory compound embedded within the yarn fibers of the inner fabric layer.

TOSHIO et al. teaches a knit fabric having excellent heat-insulation and comfortableness by sufficiently opening the fiber tip parts of a pile fabric and uniformly and firmly attaching a binder containing far infrared radiation inorganic particles. (Abstract)

Since both LUMB et al. and TOSHIO et al. are directed to knit fabrics with insulating properties, the purpose disclosed by TOSHIO et al. would have been recognized in the pertinent art of LUMB et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the composite textile fabric and provide it with fibers with particles such as cobalt oxide, iron oxide, zirconium oxide or manganese oxide with the motivation of providing the fabric with improved heat insulation effect as disclosed by TOSHIO et al. (Abstract)

***Allowable Subject Matter***

5. Claims 19-32 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fails to teach a composite textile fabric of the present invention that particularly comprises an inner fabric layer that has been treated by metal vapor deposition that further allows for the passage of liquid there through.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the


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THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Norca L. Torres-Velazquez whose telephone number is 571-272-1484. The examiner can normally be reached on Monday-Thursday 8:00-4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-0994.

  
Norca L. Torres-Velazquez  
Examiner  
Art Unit 1771

January 20, 2004

  
ELIZABETH M. COLE  
PRIMARY EXAMINER